



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
AIR AND RADIATION

January 9, 2013

Dear Computer Server Manufacturer or Other Interested Stakeholder:

The U.S. Environmental Protection Agency (EPA) is pleased to share with you the attached **Final Draft** Version 2.0 ENERGY STAR Specification for Computer Servers. EPA would like to thank the many stakeholder who have invested time and effort in providing feedback in support of this specification development process. The deadline to provide comments on these Final Draft documents is **January 25<sup>th</sup>, 2013**. The anticipated effective date for the Version 2.0 requirements is November 20th, 2013.

**EPA and DOE will host a brief webinar on January 31<sup>st</sup>, from 1:00 – 2:30 PM Eastern Time**, to discuss the Final Draft Specification and Test Method documents. Note that this webinar is after the comment submission deadline, as it is intended to review comments on the Final Draft documents submitted by stakeholders and address any concerns prior to publication of the Final Specification and Test Method. If you would like to participate in the webinar, **please RSVP to [servers@energystar.gov](mailto:servers@energystar.gov) no later than January 29<sup>th</sup>**.

The Final Draft Specification and Final Draft Test Method incorporate input received during EPA's data assembly process along with information from discussions with stakeholders on issues such as product family structure and blade server testing conditions. During this time, EPA and DOE have maintained a regular participatory role in development meetings for the Server Efficiency Rating Tool (SERT) and will further develop SERT-related areas of the documents prior to finalizing the specification and test method.

**The following are key changes included in the Final Draft Specification:**

- Section 1:
  - A new definition has been proposed for buffered DDR channels.
  - The definition of Auxiliary Processing Accelerators (APA) has been moved from Section 3.9 in Draft 3 to Section 1 in the Final Draft.
  - The High Performance Computing system definition has been revised slightly based on stakeholder feedback.
- Section 3.4: EPA has modified language and clarified the requirements for multi-node servers.
- Section 3.5:
  - After consulting with stakeholders, EPA has included a nine month window of time after finalizing Version 2.0 during which SERT data submitted to EPA will be published anonymously. This will provide a window for EPA and stakeholders to evaluate SERT results. Data will be presented publicly and fully at the end of this nine month window.
  - The following results from SERT shall be provided:
    - Final SERT results which include the results files (both html and text format), and all results-details-chart png files
    - Intermediate SERT results for all benchmarks which include the results-details files (both html and text format), and all results-details-chart png files
- Section 3.6:
  - EPA has clarified that the manual idle measurement (defined in Section 6.1.E of the ENERGY STAR Computer Servers Test Method Rev-Jan-2013) shall be used to collect idle data for qualification purposes in the Version 2.0 Computer Servers specification.

- The Additional I/O Device allowance now also applies to SAS, SATA, Fibre Channel, and Infiniband functionality.
  - In response to Draft 3 comments and after discussions with multiple stakeholders, a Resilient Server category and base idle state power allowance has been added to Table 3.
  - An Additional Buffered DDR Channel allowance has been added to Table 4, which applies to Resilient Servers only.
- Section 3.8: EPA has clarified that a blade Chassis with an asymmetric power domain shall be rounded up to the nearest power domain per the manufacturer's recommended configuration. The number of blades tested shall be reported in the power and performance data sheet.
  - Section 3.9 – 3.10: EPA has added a new Section 3.9 to clarify idle state efficiency criteria specifically for multi-node servers in this Final Draft. The existing "Other Testing Criteria" found in Section 3.9 of Draft 3 has been moved to Section 3.10 in the Final Draft. In Section 3.10, the APA idle power limit has been revised from 46 watts for the entire server to 46 watts per installed APA based on feedback from stakeholders and analysis by EPA.
  - Section 5.4: EPA has revised the language in this section to provide additional clarity on the frequency of power and temperature sampling requirements in Version 2.0.
  - Section 6.1: In response to stakeholder comments on Draft 3, EPA has provided additional instruction on two socket servers that can only operate with one processor.
  - Appendix B: Minor revisions to requirements to meet the Resilient Server definition.

**The following are key changes to the Final Draft Test Method:**

- Section 4: DOE has updated the input power requirements to include three-phase servers. A three-phase voltage and frequency requirement of 208 V ac and 60 Hz have been added to the test method. In addition, DOE has updated the test setup requirements to be consistent with the SERT Run and Reporting Requirements and the SERT User Guide.
- Section 5.2: DOE has added language to clarify the test setup for multi-node servers which is consistent with the Final Draft Specification. In addition, DOE has updated the unit under test (UUT) setup requirements to be consistent with the SERT Run and Reporting Requirements and the SERT User Guide.
- Section 6.1: DOE has increased the idle test period from 5 minutes to 30 minutes to capture the effect of server maintenance cycles initiated during idle state operation. The longer measurement period will average the effect of these maintenance cycles and provide more repeatable results.
- Section 6.2: DOE has added a new Section 6.2 to include Active State Testing using SERT. DOE has also modified the reporting requirements to include all relevant output files from SERT. This includes the files which contain the complete configuration details and test results of the UUT.

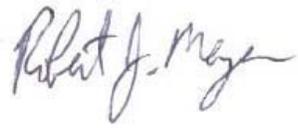
More details regarding the changes listed above are included in note boxes throughout the Final Draft Specification and the Final Draft Test Method documents.

**Comment Submittal**

Written comments on the Final Draft Specification and Final Draft Test Method may be submitted to [servers@energystar.gov](mailto:servers@energystar.gov) by **January 25<sup>th</sup>, 2013**. All comments will be posted to the ENERGY STAR Product Development web site unless the submitter requests that their comments remain confidential.

Thank you for your continued support of the ENERGY STAR program. Stakeholder participation is critical to developing a meaningful specification and to the overall success of ENERGY STAR. Please direct any specific questions on the specification to RJ Meyers, EPA, at [Meyers.Robert@epa.gov](mailto:Meyers.Robert@epa.gov), or 202-343-9923; or John Clinger, ICF International, at [John.Clinger@icfi.com](mailto:John.Clinger@icfi.com), or 215-967-9407. For questions on the test method, please contact Bryan Berringer, DOE, at [Bryan.Berringer@ee.doe.gov](mailto:Bryan.Berringer@ee.doe.gov), or 202-586-0371.

Sincerely,

A handwritten signature in cursive script that reads "Robert J. Meyers". The signature is written in a dark ink and is positioned below the word "Sincerely,".

Robert Meyers  
Product Manager, ENERGY STAR Computer Servers